



Proposed Glasgow Bridge Improvements

Innovative solutions can provide cost-effective improvements to this Missouri River crossing.



GLASGOW BRIDGE (Route 240) — TODAY

- Built in 1922
- Worst condition major river bridge
- Rehabilitated in 1987
- Requires frequent maintenance
- Unscheduled bridge closures
- Narrow roadway — 20.3 feet
- Vertical clearance — 14.9 feet



GLASGOW BRIDGE — TOMORROW ?

- New roadway and girders
- 26 feet wide (11-ft lanes, 2-ft shoulders)
- No vertical clearance restrictions
- Extends life by 50 years
- Minimizes future maintenance
- Minimizes environmental issues/impacts
- Accelerated construction schedule

Glasgow Bridge (Route 240) OPTIONS

No Construction Cost
\$11–13 million
\$14.4 million

A: No-Build

B: Rehabilitation of existing bridge

C: Partial Replacement

Permanent closure

3+ months closure

9-12 months closure

Option C, Partial Replacement, is the Preferred Alternative for this project.

The nation's two mightiest rivers — the Mississippi and Missouri — flow for more than 1,000 miles through Missouri. Consequently, Missouri has more major river bridges — 55 — than any other state, and virtually all of them span these two rivers. These bridges are big and costly, both to construct and to maintain, and many are old. Carefully protecting these significant investments through maintenance, rehabilitation or replacement is critical to the economic vitality of Missouri.

MoDOT has 25 crossings over the Missouri River alone, many of which are critical links to rural communities on opposite sides of the river that depend on an agricultural economy. One that



needs immediate attention is in Central Missouri at Glasgow. It's been 20 years since this structure was last rehabilitated, and it is routinely closed and/or restricted for up to a week at a time for regular maintenance. This bridge alone would cost more than \$22 million to completely replace — with millions more for associated costs like right of way acquisition, connecting roadway work, etc.

MoDOT's challenge is to improve as much of its system as possible with available resources. Finding innovative and cost effective solutions allows for another project somewhere else. There are a range of options that can provide best-value improvements at this location.

Historical Significance

MoDOT recognizes that this bridge is historically significant, but it is structurally deficient in design and functionally obsolete for today's use.

No Build

Doing nothing is an option that must always be considered as part of the environmental process. In this case, doing nothing would mean that the bridge would continue to deteriorate and require frequent maintenance, load postings and closures. Eventually the bridge would become unsafe for traffic and have to be closed permanently. This is obviously a result that all involved would prefer to avoid.

Complete Replacement

Building a new bridge at Glasgow would provide very long-term benefit, but was not an affordable solution as MoDOT put together its Statewide Transportation Improvement Plan (STIP) for the next five years. Building a new bridge would allow the existing structure to be used during the construction process, but it would also require a lengthy environmental study and possible expensive mitigation measures, and would have significant additional costs to purchase right of way and to build roadways to connect to the new bridge site. With the lengthy amount of time required to design a new bridge, the existing bridge would also need an expensive rehabilitation to remain in service until the new bridge was completed. For these reasons, complete replacement has been eliminated from consideration for this project.

Rehabilitation

Rehabilitation of this bridge, though cheaper (\$11-13 million), would still not eliminate the regular maintenance closings that plague this bridge today. It would allow the bridge to remain in service for another 10-15 years, but another rehabilitation or other solution would eventually be required. And rehabilitation would not add width to the narrow decks that can make meeting a truck on this structure a harrowing experience.

Innovation May Be the Answer—Partial Replacement—The **PREFERRED ALTERNATIVE**

MoDOT has identified an innovative solution that could extend the life of the Glasgow river bridge crossing by another 50 years — a great benefit, increase the roadway width to 26 feet, and minimize impacts to the river and surrounding area.

MoDOT would remove the existing deck and steelwork from the supporting piers, then



provide new steel and roadway on top to produce a new driving surface. The cost — estimated at \$14.4 million — is not much more than the cost of rehabilitation, is affordable and saves money and effort by reusing existing infrastructure. These improvements are planned for 2008 — provided an aggressive, practical, teamwork approach is applied to this project.

This innovative strategy, though, would require complete closure of the facility for up to 12 months. MoDOT realizes that closure creates issues for the community — planting and harvest seasons, access to jobs and schools, emergency services ... just to name a few. Lengthy detours that would be required to negotiate the construction project have many different types of consequences, as does the timing of the proposed improvements. MoDOT would seek to minimize impacts wherever possible, but some will be unavoidable if this effort is to swiftly move forward. To do so, community leaders, the general public, other stakeholders and MoDOT have come together with a collaborative effort to establish a game plan that will result in a valuable, long-lasting resource at this location.

Alternative Transportation Solutions

MoDOT continues to investigate alternative transportation solutions to provide access across the river during the proposed bridge closure. Preliminary cost estimates are shown below, but funding for these solutions remains an issue. We are working with the community and researching all available options, including potential Federal funding, and plan to provide some type of service across the river while the bridge is closed.

Service	Cost	Schedule
Vehicle ferry	\$1.4 M	12 hours / 7 days
Passenger rail	unknown	unknown
Shuttle service	\$0.25 M	12 hours / 5 days
Amphibious vehicle	\$0.15 M	to be determined

Summary

There are some challenges involved with the Partial Replacement option, but MoDOT believes those that involve engineering decisions are manageable. In short, strange as it may seem with a project this large, building the bridge is the easy part. The bigger issues involve public and agency acceptance of the innovative strategy that would keep work out of the river in order to provide an economical, longer-term improvement, while accepting that the tradeoff would be restricted access across the river for up to a year.

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